BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF DELAWARE

IN THE MATTER OF THE INVESTIGATION BY	)	
THE DELAWARE PUBLIC SERVICE COMMISSION	)	PSC DOCKET NO. 11-330
CONCERNING THE COMPANY'S PROPOSAL TO	)	
ESTABLISH A NEW RESIDENTIAL AIR	)	
CONDITIONING CYCLING PROGRAM	)	
(FILED JULY 29, 2011)	)	

Staff Report on Delmarva Power & Light's Proposal to Establish a

New Residential Air Conditioning Cycling Program

DE PSC Docket No. 11-330 (Filed July 28, 2011)

October 17, 2012

Executive Summary

On July 28, 2011, Delmarva Power & Light ("DPL" or the "Company") filed an application (the "Application") seeking Commission approval of its proposed Rider "R-DLC" Residential Direct Load Control and a proposed timeline for implementing the Direct Load Control program for residential customers. The Company, Staff, and the Public Advocate held workshops on November 15, 2011 and February 7, 2012 to discuss the Application. The Division of Natural Resources intervened in the proceeding, but did not attend the workshops. The parties also sent a series of follow-up questions to the Company and participated in a conference call on April 5, 2012 to gain clarification on the details of the program.

Overall, Staff supports DPL's request to implement the Rider "R-DLC" Residential Direct Load Control for residential customers and to eventually phase out the existing Energy for Tomorrow (EFT) program if the following conditions are met:

1) The Company should be required to provide quarterly and annual reports and status updates on program implementation, costs, revenues, targets and results.

2) The tariff should be modified to include the brand name of the program and instructions on where to find the program details.

3) The Company should continue to remove the EFT switches at no cost to the customer and continue to handle any damage claims through their existing claims process.

4) The Company should provide to Staff and DPA copies of all advertising and mailings that will be sent to customers prior to customer distribution.

5) The Company should be permitted to create a regulatory asset to recover the filed costs of the program **($25,477,246)** with the carrying cost set at the current weighted cost of capital.

6) At the end of the program cost recovery period, the parties should discuss the best way to refund any excess PJM revenues to customers

Background

The Commission opened Docket No. 07-28 to consider the "Blueprint For the Future Application and Plan" filed by DPL on February 6, 2007. Included in the filing were proposals for demand-side management and advanced metering. On September 16, 2008, the Commission issued Order No. 7420 which approved the deployment of Advanced Metering Infrastructure (AMI) in DPL's service area and recommended establishing a collaborative workshop to "determine the viability of implementing any reasonable demand-side management or demand response programs in the near term.[1]" On November 21, 2008, the Commission issued Order No. 7485 to open Docket No. 08-391 "for the filing of all notices, pleadings and other papers relating to the Workshop"[2].

Publicly noticed workshops were held on November 20, 2008, June 24, 2009, and October 29, 2009. At the 2008 workshop which focused on load management programs, DPL was asked to present a description of the program including operational details, implementation plans, cost and savings estimates, and education plans. The two workshops held in 2009 addressed the broader topic of load control, AMI and dynamic pricing. The concepts discussed in the workshops formed the basis of the Company's current Application filed on July 28, 2011.

Procedural History of Delmarva Power & Light's Residential Direct Load Control Filing

On July 28, 2011, Delmarva Power & Light ("DPL" or the "Company") filed an application (the "Application") seeking Commission approval of its proposed Rider "R-DLC" Residential Direct Load Control and a proposed timeline for implementing the Direct Load Control program for residential customers. Public notice of the docket was published in various newspapers in New Castle, Kent and Sussex counties in September. The public notice established September 23, 2011 as the deadline to file an intervention petition. One petition was received from the Department of Natural Resources and Environmental Control and they were granted intervention status in the proceeding.

The Company, Staff, and the Public Advocate held a workshop on November 15, 2011 to discuss the Application. The Division of Natural Resources (DNREC) was invited as an intervener in the proceeding, but did not attend the workshop. An additional workshop was held on February 7, 2012. The parties also sent three series of follow-up questions to the Company to gain clarification on the details of the program. The Company met separately with the Public Advocate and DNREC.

Summary of Company's Application

<u>Proposed Rider R-DLC</u>

The Company's proposed Rider "R-DLC" is a voluntary program. The program will be marketed under the name Energy Wise Rewards and will be available to all Residential customers. If the customer volunteers to participate in the program, the Company will install

[1] [1] Order 7420 (September 16, 2008). Delaware Public Service Commission. Retrieved December 28, 2011 from http://depsc.delaware.gov/orders/7420.pdf

[2] Order 7485 (November 21, 2008). Delaware Public Service Commission. Retrieved December 28, 2011 from http://depsc.delaware.gov/orders/7485.pdf

either a small thermostat or a radio controlled switch on the customer's central air conditioner or central heat pump. Customers who select the thermostat option will need to arrange access to their homes for installation. The thermostat or switch will cycle the appliance off based on one of three cycling options selected by the customer- 15 minutes, 22.5 minutes, or 30 minutes during a 30 minute period. The customer will receive a onetime installation credit when they enroll (from $40 to $80) and an annual credit on their bill (from $40 to $80) based on the cycling option they select. The following chart compares the three options.

Residential Direct Load Control Program Summary

PROGRAM OPTIONS:	50% Cycling	75% Cycling	100% Cycling
Minutes air conditioner or heat pump will be cycled Off during each 30 minute period	15 minutes	22.5 minutes	30 minutes
One Time Enrollment Installation Credit	$40	$60	$80
Annual Fixed Credit (paid from June through October bills)	$40	$60	$80

Proposed Phase-In Timeline

DPL proposes to make the Direct Load Control program available to residential customers in the summer of 2013 with program marketing and installations to start in mid to late 2012 depending on when the program is approved and when the equipment can be obtained. There is typically a 15 to 20 week lead time to order the equipment so the Company estimates they will be able to begin approximately six months after the program is approved.

Energy For Tomorrow Rider

The Energy Wise Rewards program is designed to replace Delmarva's existing Energy for Tomorrow ("EFT") program described in the Energy for Tomorrow Rider. Under the existing EFT program, Customers may elect to enroll their air conditioner. A water heater option has been closed to new participants since 1989. Each Customer receives a $3 bill credit from June through September for their water heater and a $5 bill credit for their air conditioner. As of March 2011, the EFT program had 41,161 Delaware participants contributing to an estimated peak electricity demand reduction of 18 MW.[3] Approximately 15,000 customers enrolled water heaters and air conditioners. Approximately a few hundred enrolled only the water heater. The equipment has a life expectancy of 15 years, but some of it is over 25 years old. PJM only allows older legacy programs to participate at a 50% level.

[3] Direct Testimony of Stephen Sunderhauf, page 5, lines 13-15.

The company proposes an opt-out process. The Company plans to contact existing EFT customers and offer them the opportunity to enroll in the new program or to cease participation with the target being to discontinue the EFT program by 2014. The Company plans to give EFT customers multiple chances to make a selection by sending letters and postcards, by attempting to contact the customers via phone call, and last by utilizing door hangers. Customers who choose to switch to the new program will not incur any additional costs but will receive credits based on the new Energy Wise Rewards tariff. They will not continue to receive the EFT tariff credits. Program credits for EFT customers who choose to not participate in the new Energy Wise Rewards program will cease at a date to be determined by the Company. The new program does not offer a water heating option; such options have not proven to be cost effective.

Costs of the Program

The Company projects that the total cost of the program will be approximately $25 million. The projected costs include all expected program costs from marketing to installation to program evaluation. The costs assume that the program will be promoted at a level that will allow the company to meet a target of 50,000 participating customers by 2015, projected peak demand reductions of 61 MW, and projected peak energy reductions of 2,936 MWH[4].

Cost of devices and installation	$11,491,710
Marketing	6,064,350
Contractor Support	3,178,000
Credits paid to participating customers	2,960,375
Program Administration (incremental employees)	860,625
Maintenance services	672,187
Program Evaluation	250,000
Total Costs	**$25,477,246**[5]

The costs stated by the Company assume recovery of program costs through a 15 year regulatory asset and assume a discount rate of 4.6 percent. The credits paid to customers are not included in the costs of the program since it is expected that PJM revenues will fund those credits. The Company proposes to recover the regulatory asset through base rates from only residential distribution accounts.

[4] Direct Testimony of Stephen Sunderhauf, page 7, Table 1, Lines 7-11.

[5] Direct Testimony of Stephen Sunderhauf, page 8, Table 2, lines 7-10.

Staff Review

The Company, Staff, and the Public Advocate held a workshop on November 15, 2011 to discuss the Application. The Division of Natural Resources intervened in the proceeding and was invited to attend the workshop, but did not participate. During the workshop, the participants discussed the program details and implementation plans including programs costs, marketing and education, customer enrollment options, calculation of customer savings, equipment used in the program, and technical specifications. The participants discussed how direct load control and dynamic pricing would work together, how the program would interact with PJM markets, and the safeguards in place to avoid unintended or prolonged cycling.

<u>Lessons Learned by the Company</u>

The Company presented the lessons learned from the implementation of this program in Pepco Holding Inc.'s (PHI's) Maryland, D.C., and New Jersey service territories. The Delaware program will offer both an outdoor switch and a programmable thermostat. The company has found that many customers participated in the Maryland and New Jersey programs because they could receive a programmable thermostat at no additional cost to them. The company has also learned that the offering may be too complex for many customers to understand and take action if they are initially asked to choose between all three participation options. As a result, Delmarva will lead with an offer of 50% participation, with the option to elect a greater savings option. In addition, Delmarva proposes to send customers an annual letter every spring allowing them to upgrade or modify their participation level and to offer some Saturday and some evening installation appointments.

According to the Company, the contractor selected to market the program has developed their marketing techniques over three decades of load control program installations in roughly half of the states in this country. The marketing approach will begin with mass mailings followed by segmented marketing with customized messages. If needed, the Company will employ door to door marketing which has proven effective in other states. Mailings will be staggered geographically to manage installation backlog. The Company will also use the customer newsletter (LINES), bill inserts, and My Account to increase awareness of the program. If there are a large number of individually metered multi-family dwelling units, grass roots campaigns to market to the property manager and the customers will be considered. Customers will be able to enroll via website, call center, or business reply card. The Company stated the mail-in card was the most utilized.

<u>Technical Details</u>

The Company also explained the benefits of the technology selected for the program which include capabilities that were not available in the devices used for the EFT program. The thermostat incorporates specific features requested by PHI that will lead to easier upgrades and the ability to send a variety of messages to the thermostat display. The cycling devices optimize cycling time and can be reprogrammed as new techniques are developed. Once a system upgrade is completed, the devices will be capable of two way communication so the Company will be able to confirm that devices are operational and customers have not disconnected them.

Results in Other States

Staff asked the Company to provide the cost to achieve a one MW reduction in each of the existing programs in other states. The Company supplied the following data:

Cost per MW:

Program	Years in Operation	Cost Including Incentives	Cost Without Incentives	MW Reduction
Pepco, MD	3	$387,000 per MW	$288,000 per MW	92.6 MW
DPL, MD	3	$311,000 per MW	$238,000 per MW	38.0 MW
ACE, NJ	4	$261,000 per MW	$223,000 per MW	27.5 MW
DPL, DE		N/A*	$$357,000 per MW	61.0 MW

**Delmarva has proposed the annual incentives come from the customer's participation in the Peak Energy Savings Program.*

The cost includes total program expenditures and achieved MW reduction capability through December 31, 2011. Each program represents a new residential direct load control air conditioner cycling program and each utility is actively recruiting new participants and installing outdoor cycling switches. As the table shows, the programs have been in operation for three to four years and the megawatt reductions vary from 27 to 96 MW.

Recruitment of participants and installation of equipment for Pepco’s District of Columbia new residential direct load control air conditioner cycling program did not begin until 2012 and therefore comparable figures are not available for that jurisdiction.

According to Delmarva, the primary factors that influence the cost per MW of reduction capability includes the percentage of customers who elect to receive outdoor cycling switches (lower cost) versus indoor smart thermostats (higher cost but greater benefit), the use of older style smart thermostats (lower cost) versus the use of newer style smart thermostats (higher cost) and per participant recruitment marketing and education costs.

The build out cost for Delmarva Delaware through the full build out phase of the program is $357,000 per MW, excluding customer incentives. The figures provided for the other jurisdictions through December 31, 2011 are those incurred costs for partial program rollouts through year-end 2011 compared to MW achievements.

The reasons that the cost projection per MW achieved for Delmarva Delaware is higher than those provided for other jurisdictions include the following:

1. Delmarva projects 70 percent of Delaware customers will select a smart thermostat and only 30 percent will select an outdoor switch. In other jurisdictions, more customers have selected the outdoor switch. The availability of dynamic pricing to Delaware residential customers is expected to increase the desirability of a smart thermostat due to the programming features of the thermostat and the messaging display capability. Delaware is the only jurisdiction that has implemented a dynamic pricing program. The ratio of smart thermostats to outdoor switches may change as installations progress. Since outdoor switches are less expensive than thermostats, the actual equipment cost and associated charges may be lower than budgeted.

2. The new enhanced AMI-enabled smart thermostat that is available for installation in Delaware is more costly than the initial smart thermostat used in New Jersey. The version used in Maryland and D.C. and planned for use in Delaware is compatible with the AMI system, has a larger screen, has more messaging capability, and is easy for customers to use. It also has a more secure communication protocol. The more basic model used in NJ is not AMI compatible since NJ has no current plans to install AMI meters.

3. Marketing acquisition costs for each incremental participant increase over time since marketing to the early adopters is less costly than the marketing tactics required to recruit "late-adopters" later in program. The presented figures for Delmarva Delaware are reflective of costs through the full build out of the program. The other programs continue to expand and their costs are expected to increase per MW achieved due to increasing marketing acquisition costs for incremental program participation.

If the Commission approves the Company's "opt out" conversion proposal for existing Energy For Tomorrow participants, incurred marketing costs are likely to be lower than forecast.

Staff's Requirements for Full Support of DPL's Residential Direct Load Control Filing

After reviewing the Application, participating in workshops, and holding informal discovery conferences, Staff believes the Company should move forward to implement Rider R-DLC for residential customers. However, in order for Staff to fully support DPL's proposed implementation of the Residential Direct Load Control program, the following are necessary.

1) On a quarterly basis, the Company should submit a report to Staff and DPA which will include, but will not be limited to the following.

a. The year to date marketing costs for the program
b. The marketing costs for the quarter
c. Budgeted marketing costs for the quarter
d. Deviation of actual from budget with explanation for cause of deviation
e. Number of enrollments (year to date and quarter)
f. Number of installations (year to date and quarter)
g. Budgeted marketing costs for next quarter.

2) On an annual basis, the Company should submit a report to Staff and DPA which will include, but will not be limited to the following.
   a. Number of enrollments and number of installations
   b. PJM Capacity revenues credited to the Energy Wise Rewards Program (stated separately from revenues credited to the dynamic pricing program).
   c. PJM energy market payments resulting from DR being called.
   d. Ongoing balance of money paid to customers versus monies collected from PJM
   e. Costs of program
   f. Dates of cycling events, duration of event, reason for event
   g. Participation level for events including number of customers and MW reduced
   h. Progress toward state energy goals.

Staff believes it is critical to understand the Company's progress in launching, marketing, and operating this program. A continued exchange of information between the Company, Staff, and DPA will give all participants a better understanding of customer response levels, progress toward state goals, any customer issues, and under or over funding of program payments based on participation in PJM markets.

2) The tariff should include the name the program will be marketed under and instructions on where customers can locate the detailed program rules.

The tariff filed by the Company in the application refers to the program as Rider RDLC or Residential Direct Load Control Program. Just as it does with the current EFT program, the Company should include the name the program will be marketed under in the tariff. Otherwise it may not be clear to customers that Rider RDLC and Energy Wise Rewards are the same program. In addition, many of the program rules are documented in a separate customer agreement. Staff understands the Company wants to maintain a degree of flexibility in some of the operational rules in order to respond to customer response or program research; however customers should be made aware that additional rules do exist. Staff suggests including a link in the tariff to the customer agreement so all parties will be able to easily access the additional program information.

3) **If removal is requested by the customer, the Company should continue to remove the EFT switches at no cost to the customer and continue to handle any damage claims through their existing claims process.**

The Company will offer EFT customers the option to switch to the new program. For customers who elect to switch, the existing EFT switch will be replaced by the new Energy Wise Rewards switch or thermostat. Switches belonging to customers who do not switch to the new program will be abandoned in place. If such a customer requests removal of the switch, the Company plans to continue to remove the switch at no direct cost to the customer. The costs are recorded as normal operating and maintenance costs. The failure rate for the old EFT switches is very low, but if the switch does cause loss of air conditioning or heat pump heating function, the Company handles the customer claim through their existing claims process and if appropriate, reimburses the customer for service bills.

4) **The Company should provide to Staff and DPA copies of all advertising and mailings that will be sent to customers prior to customer distribution.**

Staff expects to receive customer questions and/or informal complaints based on the program so it will be in the Company's best interest to keep all parties apprised of customer education and marketing efforts in order to help everyone address customer concerns in an effective and timely manner.

5) **Delmarva will be allowed to establish a regulatory asset for cost recovery according the following conditions.** .

Staff believes the Company should be allowed to recover appropriate costs. The Company should create a regulatory asset that will be reviewed during a future base rate case. The amount of the regulatory asset is not to exceed the stated program costs of $25,477,246. If the Company determines that expenses will exceed the stated program costs or if the Company reaches the megawatt reduction goal as defined in 26 Del. C. § 1502 prior to the expenditure of the full filed cost, the Company must file an application with the Commission and receive approval of additional program expenditures. The Company will work with Staff and the DPA to determine if continued promotion of the program is cost effective and necessary.

6) **At the end of the program cost recovery period, the parties should discuss the best way to refund extra PJM revenues to customers.**

If a 15 year cost recovery period is used, then in year 16, the Company will still be collecting revenues from PJM markets to offset the Customer bill credits, but the Company will no longer need to hold excess revenue to offset program costs. At that point, the excess revenue should be returned to customers. During the final cost recovery year, the parties will know more about the regulatory environment and the frequency of rate cases so they should meet to discuss the preferred way to refund this money to customers.

Conclusion

Overall, Staff supports the Air Conditioning Cycling program. Research shows that this type of program is the most cost effective of the load control program options. The Company's program will provide customers with an automated way to reduce their bills during peak periods. It will also complement the critical peak rebate program by giving customers the technology to respond to peak events even when they are not at home. However Staff remains concerned about the cost of the program. Staff's requirements improve the program by adding customer protections and addressing issues that were not included in detail in the application. They also ensure a continued dialogue between the parties as the program is launched and customers begin to enroll.